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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,727	08/30/2001	Kilian Dill	0405	1709
28869	7590	06/19/2007	EXAMINER	
COMBIMATRIX CORPORATION			JUNG, UNSU	
6500 HARBOUR HEIGHTS PARKWAY				
MUKILTEO, WA 98275			ART UNIT	PAPER NUMBER
			1641	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/944,727	DILL, KILIAN
Examiner	Art Unit	
Unsu Jung	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) \_\_\_\_\_ is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) 1-18 are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____.                         |

**DETAILED ACTION**

1. It is noted that inventor's name in a related application, 10/229,755, indicates a different inventor's last name "Killian" rather than "Kilian" in the current application. Further clarification is requested regarding the inconsistency in the inventor's last name.
2. Claims 1-18 are pending.

***Election/Restrictions***

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-4 and 6-9 drawn to a method for reading microarray devices having addressable electrodes, where an oxidation/reduction enzymatic moiety is non-specifically attached to target molecules, classified in class 435, subclass 7.1, for example.
  - II. Claim 5 drawn to a method for reading microarray devices having addressable electrodes, where an oxidation/reduction enzymatic moiety is specifically attached to target molecules, classified in class 435, subclass 7.5, for example.
  - II. Claims 10-13 and 15-18, drawn to a microarray device for detecting binding of a target molecule, where an oxidation/reduction enzymatic moiety is non-specifically attached to target molecules, classified in class 422, subclass 82.01, for example.

II. Claim 14, drawn to a microarray device for detecting binding of a target molecule, where an oxidation/reduction enzymatic moiety is specifically attached to target molecules, classified in class 435, subclass 287.2, for example.

4. The inventions are distinct, each from the other because of the following reasons:

A. Inventions I and II are independent and patentably distinct. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the method of Group I requires an oxidation/reduction enzymatic moiety non-specifically attached to target molecules, which is not required by the method of Group II. The method of Group II requires an oxidation/reduction enzymatic moiety specifically attached to target molecules via antibody and anti-idiotype antibody combination or biotin and streptavidin (or avidin) binding combination, which is not required by the method of Group I. Therefore, the methods of Groups I and II have different modes of operation.

B. Inventions I and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product

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as claimed can be used in a materially different process. For example, the device of Group III can be used to separate target molecules of interest in a sample.

C. Inventions I and IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product as claimed can be used in a materially different process. For example, the device of Group IV can be used to separate target molecules of interest in a sample.

D. Inventions II and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product as claimed can be used in a materially different process. For example, the device of Group III can be used to separate target molecules of interest in a sample.

E. Inventions II and IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product

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as claimed can be used in a materially different process. For example, the device of Group IV can be used to separate target molecules of interest in a sample.

F. Inventions III and IV are independent and patentably distinct. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the device of Group I requires an oxidation/reduction enzymatic moiety non-specifically attached to target molecules, which is not required by the method of Group I. The device of Group II requires an oxidation/reduction enzymatic moiety specifically attached to target molecules via antibody and anti-idiotype antibody combination or biotin and streptavidin (or avidin) binding combination, which is not required by the method of Group I. Therefore, the device of Groups I and II have different designs.

5. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art due to their recognized divergent subject matter and searches for one group are not required by the to others, restriction for examination purposes as indicated is proper.

***Election of Species within Groups I and III***

6. This application contains claims directed to the following patentably distinct species of the claimed inventions I and III. If Group I or III is elected, the applicant is required to elect one species from each of the following five lists of species:

**List I: Electrode Generation (claims 2 and 3 or claims 11 and 12)**

- A. In situ synthesis with electrochemical techniques (claims 2 and 3 or claims 11 and 12)
- B. Spotting the capture molecules (claim 2 or claim 11)
- C. Ink-jet printing the capture molecules (claim 2 or claim 11)
- D. In situ synthesis through photolithography techniques (claim 2 or claim 11)

**List II: Oxidation/Reduction Enzyme (claim 4 or claim 13)**

- A. Laccase
- B. Horseradish peroxidase
- C.  $\beta$ -galactosidase
- D. Glucose oxidase
- E. Alkaline phosphatase
- F. Dehydrogenases
- G. Combination thereof (for this species, Applicant must provide a specific combination of the above oxidation/reduction enzymes)

**List III: Polymeric Materials of Porous Reaction Layer (claim 7 or claim 16)**

- A. Polyvinyl alcohol
- B. Polyvinyl acetate
- C. Tricellulose acetate
- D. Polyurethane
- E. Agarose
- F. Controlled porosity glass with a PTFE resin
- G. Dextran
- H. Epoxy-based polymers
- I. Combinations thereof (for this species, Applicant must provide a specific combination of the above polymeric materials)

**List IV: Capture Molecules (claim 8 or claim 17)**

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- A. Oligonucleotides
- B. Polypeptides
- C. Antibodies
- D. Glycosylated polypeptides
- E. Polysaccharides
- F. Mixed molecules having monomers from a plurality of foregoing molecules  
(for this species, Applicant must provide a specific combination of monomers comprising mixed molecules)

List V: Target Molecules (claim 9 or claim 18)

- A. DNA
- B. RNA
- C. Single-stranded DNA
- D. Ribosomal RNA
- E. Mitochondrial DNA
- F. Cellular receptors
- G. Glycosylated membrane bound proteins
- H. Non-glycosylated membrane-bound proteins
- I. Polypeptides
- J. Glycosylated polypeptides
- K. Antibodies
- L. Cellular antigenic determinants
- M. Organic molecules
- N. Metal ions
- O. Salt anions
- P. Salt cations
- Q. Combinations thereof (for this species, Applicant must provide a specific combination of the above target molecules)

Applicant is further reminded that the species selected from Lists V and VI must be consistent.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-4 are generic.

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There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the

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case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

***Election of Species within Groups II and IV***

7. This application contains claims directed to the following patentably distinct species of the claimed inventions II and IV. If Group I or IV is elected, the applicant is required to elect one species from the following list of species:

**List I: Attachment of the Enzymatic Moiety to the Target Molecules**

- A. Oxidation/reduction enzyme moiety is attached to the target molecules through an antibody and anti-idiotype antibody combination
- B. Oxidation/reduction enzyme moiety is attached to the target molecules through an biotin and streptavidin (or avidin) binding combination

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-4 are generic.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or

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employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

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Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

8. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

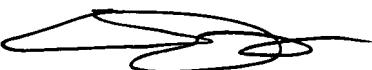
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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Unsu Jung whose telephone number is 571-272-8506.

The examiner can normally be reached on M-F: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Unsu Jung, Ph.D.  
Patent Examiner  
Art Unit 1641



LONG V. LE 06/07/07  
SUPERVISORY PATENT EXAMINER  
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